Space Day 2004 . . . Blazing Galactic Trails

What is Space Day℠?

Space Day is the award-winning educational initiative that inspires young people to realize the vision of our space pioneers. On the first Thursday in May, people of all ages around the world come together to advance education in science, technology, engineering and mathematics. Senator John Glenn serves as the co-chair of **Space Day** which is dedicated to the extraordinary achievements, benefits and opportunities in the exploration and use of space.

In honor of the bicentennial of the Lewis and Clark Expedition, **Space Day℠ 2004…Blazing Galactic Trails**, which will take place on May 6, offers a variety of educational programs to ignite the imagination of 21st century space explorers, scientists and inventors.

How Do I Participate?

Getting Started… www.spaceday.org℠

Log on to **spaceday.org** - the official **Space Day** Web site which serves as "mission control" for **Space Day** activities. It contains links to educational resources, space-related sites and the latest information about **Space Day** educational programs and events that will be taking place across the country.

Space Day 2004 Educational Programs

1. Space Day℠ *Design Challenges* - This inquiry-based learning program, developed by Challenger Center for Space Science Education, encourages students in grades 4-8 to employ mathematical and scientific concepts and initiate research to create innovative solutions to the challenges of space exploration. Each of the three *Challenges* meets national standards for science, technology, mathematics, and language arts and provides assessment tools for teachers and students. Select teams will be recognized for their "Stellar" solutions in Washington, D.C. on **Space Day**.

2. *Student Signatures in Space*® - This unique program flies digitized student signatures into space on a NASA shuttle mission. Each year, students at approximately 500 selected schools sign posters during **Space Day** events and activities. More than 2.5 million elementary and middle school students have sent their signatures into space over the past seven years.

***3. Cyber* Space Day℠** - Teachers, students and space enthusiasts throughout the world have participated in ***Cyber* Space Day**, an annual Webcast entirely devoted to space, science, and mathematics, which is broadcast live over the Internet and via satellite. ***Cyber* Space Day** 2003 is available on CD-ROM upon request by emailing **info@spaceday.org**.

"The Design Challenges are an excellent example of the kind of activities that should be going on in our schools today. They encourage and stimulate students everywhere to become active learners, and motivate students to work together, which is something that is very important in the real world of work."

-- Teri Becker, “Stellar” team teacher, Fredericksburg Elementary, Fredericksburg, Texas

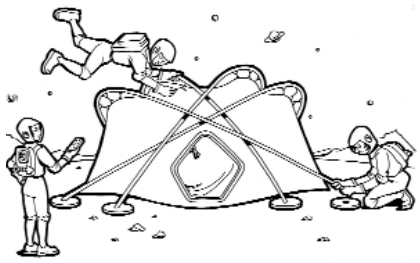
Design Challenges Pique Your Students' Imaginations, Teach Critical Thinking Skills, Demonstrate Important Concepts in Math and Science and Address National Standards

Design Challenge #1 Space Trek

Overview - Exploring a new place is the ultimate adventure. You would be the first to experience a new environment. Like other great explorers, you would need to record everything you experienced. Lewis and Clark kept detailed journals of their expeditions that included stories of hardship and extraordinary finds, descriptions of the landscape, maps, drawings of animals, portraits of people around them and even samples of dried plants.

The Challenge - Design an electronic journal about a planet, moon, comet, or asteroid in our solar system that you choose to explore. Include your expedition plans as well as several daily entries about exploring this new environment.

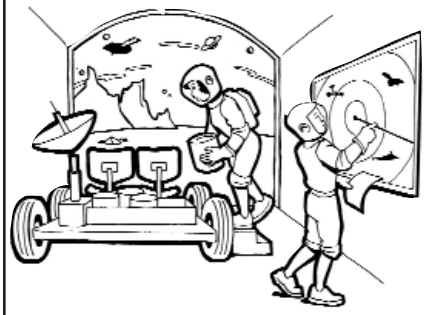
Design Challenge #2 Galactic Gear



Overview - Food, water, shelter and warmth — these are the basics needed for survival. However, when you're on an expedition of discovery, you also need useful equipment. Flashlights, canteens, folding shovels – these are some of the things that have been used by explorers. Exploring another planet will require some very unique tools. Space explorers will need tools for setting up base camp, equipment to find their way around the planet, and a variety of items to investigate their new environment.

The Challenge - Design and build a tool that can be used to explore and/or survive while exploring the solar system. The tool should have more than one use and be compact enough for an explorer to easily carry.

Design Challenge #3 Extreme Explorer



Overview - We've been sending spacecraft to explore the solar system for more than 50 years, but we're just beginning to discover "what's out there." As we continue to explore, we'll need vehicles to lead the way. Just as with vehicles exploring the Earth that are designed for a certain environment (water, air, land), vehicles exploring other planets and moons must be designed specifically to operate in their new environment. These vehicles will need to perform important tasks like taking photographs, gathering data and collecting samples.

The Challenge - Design an exploration vehicle that can explore a region on another planet, moon, comet, or asteroid in our solar system. Decide what information will be collected, and determine how the vehicle will help gather that information.

Mark Your Calendars!

For more information on these events visit the Calendar in the *Design Challenges* section of **spaceday.org**.

November 18
1:00 p.m. ET - QUEST for EdVenture Electronic Lesson satellite broadcast. Register at Fairfax Network to receive satellite coordinates.

December 17 - Celebrate the Wright Brothers' first flight.

January 2 & 4
2 - Stardust Spacecraft fly by of Comet Wild - 2.
4 - Mars Exploration Rover "Spirit" arrives at Mars.

February 1 - Anniversary of the Space Shuttle Columbia accident.

March 5 - *Design Challenge* solutions are due. Submit your solution using the official Submission Form.

May 6 - **Space Day**[SM] **2004** - Celebration takes place in communities across North America. "Stellar" teams are announced at national celebration in Washington, D.C.

Space Day Resources:

- **Lewis and Clark Trail Heritage Foundation**
http://lewisandclark.org

- **Discovery Online Expedition/Adventure Guide**
http://www.discovery.com/guides/expedition.html

- **Crew Tools for Hubble Telescope Repairs**
http://pao.gsfc.nasa.gov/gsfc/service/gallery/FACT_sheets/Spacesi/HST3-01/crew_aids.htm

- **Here is a description of some tools used by astronauts**
http://quest.arc.nasa.gov/space/teachers/suited/6work.html

- **Library of Congress' Teacher pages for using primary documents**
http://lcweb2.loc.gov/learn/index.html

- **Jet Propulsion Laboratory robotic vehicles**
http://robotics.jpl.nasa.gov/groups/rv

- U.S. Centennial of Flight Commission
http://centennialofflight.gov/- Contains resources about the past 100 years of flight, events, and technology that made flight possible.

For more ideas and *Design Challenges* information, visit www.spaceday.org